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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CHO, UN C

ART UNIT

PAPER NUMBER

2617

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/786,982

Applicant(s)

GROENENDAAL ET AL.

Examiner

Un C. Cho

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) 8, 16-18 and 25-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-15, 19-24 and 28-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 – 7, 9, 12 – 15, 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerth et al. (US 6,370,373 B1) in view of Chuah et al. (US 2005/0059396 A1).

Regarding claim 1, Gerth discloses a system for tracking and managing mobile devices in a wireless network, comprising: a plurality of device agents, each device agent being assigned to collect association information from a corresponding set of access points in the wireless network (plurality of MSC connected to BS (not shown), Fig. 2, 120A – 120 G); and a device manager (PSMS; Fig. 2, 202) operable to receive the collected association information from the device agents, the device manager having a conflict resolution engine (CDS; Fig. 2, 210) for resolving conflicting access point associations; the association information from an access point comprising information identifying mobile units which are associated with the access point (receives REGNOT records from plurality of MSC whereas REGNOT includes the mobile user's MIN, time stamp and MSC identification; Gerth; Col. 3, line 62 through Col. 4, line 35).

However, Gerth as applied above does not specifically disclose collecting the association information from the corresponding set of access points by querying the access points in the corresponding set of access points. In an analogous art, Chuah remedies the deficiencies of Gerth by disclosing such limitation on Page 3, Paragraph 0036, line 1 through Page 4, Paragraph 0037, line 6; Paragraph 0041, line 1 through Paragraph 0043, line 9 and Fig. 5. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the technique of Chuah to the system of Gerth in order to allow a gateway in a wireless network environment to efficiently monitor the mobile hosts associated with access points registered therewith.

Regarding claim 2, Gerth in view of Chuah as applied above discloses wherein the association information from the access point also comprises address information of the mobile units (mobile units MIN and ESN) which are associated with the access point; and the conflict resolution engine uses the address information to resolve conflicting access point associations to a mobile unit (Gerth, Col. 5, lines 45 – 67).

Regarding claim 3, Gerth in view of Chuah as applied above discloses wherein the association information from the access point comprises time stamps associated with the association information; and the conflict resolution engine uses the time stamps to resolve conflicting access point associations to a mobile unit (Gerth, Col. 5, lines 45 – 67).

Regarding claim 4, Gerth in view of Chuah as applied above discloses wherein the conflict resolution engine resolves a conflict between the associations of a mobile unit to two or more access points (fraud manager located within the CDS, Fig. 3, 304 compares different REGNOT and CDS determines whether the mobile user is a fraud, Gerth, Col. 5, lines 45 – 67).

Regarding claim 5, Gerth in view of Chuah discloses wherein the conflict resolution engine requests appropriate ones of the device agents to query access points corresponding to the conflicting associations (requesting a query from MSC, Gerth, Col. 5, lines 14 – 29; Chuah, Page 3, Paragraph 0036, line 1 through Page 4, Paragraph 0037, line 6; Paragraph 0041, line 1 through Paragraph 0043, line 9 and Fig. 5).

Regarding claim 6, Gerth in view of Chuah discloses wherein the conflict resolution engine uses network traffic statistics for a mobile device to resolve whether the device is associated with an access point (fraud manager uses traffic statistics such as by comparing the difference between the time stamps of the REGNOT, Gerth, Col. 5, lines 37 – 44).

Regarding claim 7, Gerth in view of Chuah as applied above discloses wherein the conflict resolution engine is rule-based (Gerth, Col. 5, lines 37 – 44).

Regarding claim 9, Gerth in view of Chuah as applied above discloses wherein the device manager sends a request to a device agent to trigger the query process of the device agent (PSMS instructs RVCD to send REGNOT records received from MSC every half hour, Gerth, Col. 5, lines 4 – 13).

Regarding claim 12, Gerth in view of Chuah as applied above discloses wherein the association information comprises identification of disassociated mobile units (fraud manager identifies the fraudulent mobile user, Gerth, Col. 5, lines 45 – 67).

Regarding claim 13, Gerth in view of Chuah as applied above discloses wherein the association information comprises information describing disassociation of a mobile unit from an access point (REGNOT includes MIN and ESN of the mobile user, Gerth, Col. 4, lines 19 – 46 and Col. 5, lines 45 – 67).

Regarding claims 14, 34 and 35, the claims are interpreted and rejected for the same reason as set forth in claim 1.

Regarding claim 15, the claim is interpreted and rejected for the same reason as set forth in claim 6.

3. Claims 10, 11, 19 – 22, 24, 28 – 33, 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerth in view of Chuah as applied to claim 1 above, and further in view of Iyer (US 6,904,278 B2).

Regarding claim 10, Gerth in view of Chuah as applied above does not specifically disclose a topology service adapted to provide, through a graphical user interface, a visualization of current associations between the access points and the mobile units. In an analogous art, Iyer remedies the deficiencies of Gerth in view of Chuah by disclosing such limitation in Iyer, Col. 16, lines 19 – 48 and Fig. 8. Therefore, it would have been obvious to one of ordinary skill in the art at

the time the invention was made to provide the technique of Iyer to the modified system of Gerth in view of Chuah in order to provide a way to combine data files related to call data in a report format, such as a graphical representation, that can be readily analyzed to permit resolution of problems in a wireless network because graphical representations are user-friendly and very easy to understand, facilitating intellectual comprehension.

Regarding claim 11, Gerth in view of Chuah and further in view of Iyer as applied above discloses wherein the visualization is associated with a subnet (visualization is associated with cell sites, Fig. 3 and Fig. 8, Iyer, Col. 16, lines 19 – 42).

Regarding claim 19, Gerth in view of Chuah and further in view of Iyer as applied above discloses a method for tracking and managing mobile devices in a wireless network, comprising: discovering wireless devices connected to the wireless network; collecting association information from access points by querying the plurality of access points for the association information, the association information from an access point comprising information identifying a current association between the access point and an associated wireless device (Gerth, Col. 3, line 62 through Col. 4, line 35 and Chuah, Page 3, Paragraph 0036, line 1 through Page 4, Paragraph 0037, line 6; Paragraph 0041, line 1 through Paragraph 0043, line 9 and Fig. 5); and providing a visualization of current associations between the access points and corresponding associated wireless devices (Iyer, Col. 16, lines 19 – 48).

Regarding claim 20, Gerth in view of Chuah and further in view of Iyer as applied above discloses tracking a mobile wireless device connected to the wireless network by using the collected association information (tracking a mobile user by using REGNOT, Col. 5, lines 45 – 67).

Regarding claim 21, Gerth in view of Chuah and further in view of Iyer as applied above discloses generating mobility information by consolidating the collected association information and resolving any conflicts in the collected information; and logging the resolved mobility information (Gerth, Col. 5, lines 45 – 67).

Regarding claim 22, Gerth in view of Chuah and further in view of Iyer as applied above discloses detecting unauthorized rogue devices connected to the wireless network (fraud manager located within the CDS, Fig. 3, 304 compares different REGNOT and CDS determines whether the mobile user is a fraud, Gerth, Col. 5, lines 45 – 67).

Regarding claim 24, Gerth in view of Chuah and further in view of Iyer as applied above discloses detecting disassociated mobile units (fraud manager identifies the fraudulent mobile user, Gerth, Col. 5, lines 45 – 67).

Regarding claims 28, 36 and 37, the claims are interpreted and rejected for the same reason as set forth in claim 19.

Regarding claim 29, Gerth in view of Chuah and further in view of Iyer as applied above discloses wherein the device manager assigns the access points to the plurality of device agents to balance a workload across the device agents

(plurality of MSCs Fig. 2, 120A – 120G are connected to its corresponding RVCDs, Fig. 2, 204A, 204B), Gerth, Col. 3, line 62 through Col. 4, line 18).

Regarding claim 30, Gerth in view of Chuah and further in view of Iyer as applied above discloses wherein the device agent regularly polls the corresponding set of access points to determine changes to associations of the access points (REGNOT records are received every half hour, Gerth, Col. 5, lines 4 – 13).

Regarding claim 31, Gerth in view of Chuah and further in view of Iyer as applied above discloses wherein the device agent queries the corresponding set of access points to request association information from the access points (PSMS instructs RVCD to send REGNOT records received from MSC every half hour, Gerth, Col. 5, lines 4 – 13).

Regarding claim 32, Gerth in view of Chuah and further in view of Iyer as applied above discloses wherein the device manager consolidates the collected information and resolves any conflicts in the collected information (fraud manager within CDS collects information and resolves any conflicts in the collected information, Gerth, Col. 5, lines 45 – 67).

Regarding claim 33, Gerth in view of Chuah and further in view of Iyer as applied above discloses wherein the association information from the access point is retrieved from an association table maintained by the access point (MSC transmits a REGNOT query to the RVCD where a record is created, Gerth, Col. 4, lines 19 – 45).

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4. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gerth in view of Chuah and further in view of Iyer as applied to claim 19 above, and further in view of Wu et al. (US 2003/0185244 A1).

Regarding claim 23, Gerth in view of Chuah and further in view of Iyer as applied above does not specifically disclose detecting unauthorized access points. In an analogous art, Wu remedies the deficiency of Gerth in view of Chuah and further in view of Iyer by disclosing such limitation (detecting counterfeit access points, Wu, Page 3, Paragraph 0033, line 1 through Paragraph 0037, line 8). Therefore, it would have been obvious to one of ordinary at the time the invention was made to provide the technique of Wu to the modified system of Gerth in view of Chuah and further in view of Iyer in order to provide an improved security in the WLAN by detecting a counterfeit access point in a wireless local area network and preventing the user from sending confidential information to the counterfeit access point.

Response to Arguments

5. Applicant's arguments with respect to claims 1 – 7, 9 – 15, 19 – 24 and 25 – 27 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Un C. Cho whose telephone number is (571) 272-7919. The examiner can normally be reached on M ~ F 8:00AM to 4:30PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on (571) 272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Un C Cho
Examiner
Art Unit 2617

6/2/06 uc


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SUPERVISORY PATENT EXAMINER